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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/809,295      | 03/16/2001  | Junichiro Yoshioka   | 2001-0322A          | 5431             |

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EXAMINER

MUTSCHLER, BRIAN L

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1753

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                        |                                       |  |  |
|------------------------|---------------------------------------|--|--|
| <b>Advisory Action</b> | <b>Application No.</b><br>09/809,295  | <b>Applicant(s)</b><br>YOSHIOKA ET AL. |  |
|                        | <b>Examiner</b><br>Brian L. Mutschler | <b>Art Unit</b><br>1753                |  |

--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

THE REPLY FILED 12 March 2004 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE. Therefore, further action by the applicant is required to avoid abandonment of this application. A proper reply to a final rejection under 37 CFR 1.113 may only be either: (1) a timely filed amendment which places the application in condition for allowance; (2) a timely filed Notice of Appeal (with appeal fee); or (3) a timely filed Request for Continued Examination (RCE) in compliance with 37 CFR 1.114.

**PERIOD FOR REPLY** [check either a) or b)]

- a) ☒ The period for reply expires 3 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection. ONLY CHECK THIS BOX WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).
- Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).
1. ☐ A Notice of Appeal was filed on \_\_\_\_\_. Appellant's Brief must be filed within the period set forth in 37 CFR 1.192(a), or any extension thereof (37 CFR 1.191(d)), to avoid dismissal of the appeal.
2. ☒ The proposed amendment(s) will not be entered because:
- (a) ☒ they raise new issues that would require further consideration and/or search (see NOTE below);
  - (b) ☐ they raise the issue of new matter (see Note below);
  - (c) ☒ they are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
  - (d) ☐ they present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: See Continuation Sheet.

3. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.
4. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
5. ☒ The a) ☐ affidavit, b) ☐ exhibit, or c) ☒ request for reconsideration has been considered but does NOT place the application in condition for allowance because: See Continuation Sheet.
6. ☐ The affidavit or exhibit will NOT be considered because it is not directed SOLELY to issues which were newly raised by the Examiner in the final rejection.
7. ☒ For purposes of Appeal, the proposed amendment(s) a) ☒ will not be entered or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.

The status of the claim(s) is (or will be) as follows:

Claim(s) allowed: \_\_\_\_\_.

Claim(s) objected to: \_\_\_\_\_.


Claim(s) rejected: 1-4 and 82-85.

Claim(s) withdrawn from consideration: 5.

8. ☐ The drawing correction filed on \_\_\_\_\_ is a) ☐ approved or b) ☐ disapproved by the Examiner.
9. ☐ Note the attached Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_.
10. ☐ Other: \_\_\_\_\_

Continuation of 2. NOTE: The proposed amendment raises new issues for consideration. Specifically, a control unit operatable to control a rotational speed of the vacuum pump to regulate the pressure of the deaerating unit has not been presented and would require further consideration and searching. It is also noted that the proposed amendment did not include claims 84 and 85, although the remarks made by Applicant suggest that claims 84 and 85 should have been indicated as cancelled.

Continuation of 5. does NOT place the application in condition for allowance because: Applicant's arguments regarding the rejections of the claims set forth in the prior Office action mailed December 12, 2003, address the limitations added in the proposed amendment. Applicant has acknowledged that Belongia teaches a degasser comprising a membrane and vacuum in column 11, lines 16-23. In response to the Examiner's position that the maintenance of the oxygen concentration between 1  $\mu\text{g/l}$  and 4  $\text{mg/l}$  is an intended use of the apparatus, Applicant argues that "the language of the control unit recited in each of claims 1 and 82 is structural" (see page 6 of Applicant's response). Although the control unit was not previously claimed, the concentration of oxygen was presented. The Examiner maintains the position that the limitation relates to the intended use of the apparatus. The concentration of oxygen in a liquid is dependent on more than the presence of a deaerating unit. The solubility of oxygen is affected by the solution being used, the temperature of the solution, and other operating conditions. Different solutions have different oxygen solubilities, and a deaerating unit sufficient to maintain the oxygen concentration in one may not be capable of maintaining the oxygen concentration when using a solution having a different oxygen solubility. The claims merely recites "a plating apparatus", a "plating liquid", and a "deaerating unit". This is insufficient to show how the concentration is maintained at the claimed level by the deaerating unit. The prior art teaches a degassing unit comprising a membrane and vacuum. As shown in Figure 8 of US 6,391,209, the outlet of the recycling stream reduces the concentration of ozone from ~60 ppm to less than 10 ppm, which approaches the same order of magnitude of the upper limit of the claimed concentration. This strongly suggests that the degasser is capable of performing the intended use recited in the claims. However, Figure 8 also demonstrates that a single degasser can operate over a range of several parts per million even when the data were acquired at a specific solution flow rate and at a specific temperature. To give weight to the claimed oxygen concentration, more structural information is necessary.



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